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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,840	01/29/2004	Denis Uzio	PET-2118	2332
23599	7590	04/28/2006		
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201				
EXAMINER DOUGLAS, JOHN CHRISTOPHER				
ART UNIT		PAPER NUMBER		
1764				

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/765,840

Applicant(s)

UZIO ET AL.

Examiner

John C. Douglas

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/29/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sadakane (EP 0745660).
3. With respect to claims 1, 2, and 5, Sadakane discloses a catalyst that comprises active metals of molybdenum, tungsten, cobalt, and nickel and that the active metals are reacted with hydrogen sulfide to form an active metal sulfide (see Sadakane, column 2, lines 39-53 and column 6, lines 15-34). Sadakane also discloses that the catalyst has a carbon content of 2.1 % (see Sadakane, column 7, lines 31-34 and 2.1% was obtained by multiplying the 3.9% coke by the atomic ratio of carbon to hydrogen of 0.53).
4. With respect to claims 9 and 10, Sadakane discloses the catalyst of claim 1 (see paragraph 3), and Sadakane discloses using the catalyst for hydrodesulfurizing catalytically cracked gasoline (see Sadakane, column 2, lines 32-34 and it is inherent that catalytically cracked gasoline boils between 5 carbons and 250 degrees C because applicant admitted so on page 12 in the specification, 4<sup>th</sup> paragraph).

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5. Claim 6 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Da Costa.

6. With respect to claim 6, Da Costa discloses impregnating a solution comprising a cobalt and a molybdenum element on an alumina support, sulfurizing the catalyst with a hydrogen and hydrogen sulfide mixture, and a carbonization step of contacting the catalyst with a hydrocarbon mixture resulting in a catalyst with 0.1 to 30 w% of a carbide phase (see Da Costa, column 4, line 66 – column 5, line 10, column 3, lines 8-19, and column 2, lines 19-25).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sadakane in view of Dufresne (US 5922638). Sadakane discloses everything in claims 1 and 2 (see paragraph 3), but does not disclose where the overall sulfur content in the catalyst is between 60 and 140 % of the sulfur content that is necessary for the total sulfurization of all of the group VI and VIII metals of the catalyst.

However, Dufresne discloses that the amount of sulfur used in presulfiding a catalyst is 0.5 to 1.5 times the stoichiometric amount of sulfur that it takes to give metals their sulfurized form (see Dufresne, column 4, lines 40-49).

Dufresne discloses that it is common practice to presulfurize a catalyst in this amount (see Dufresne, column 4, lines 40-49).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the process of Sadakane to include that the amount of sulfur used in presulfiding a catalyst is 0.5 to 1.5 times the stoichiometric amount of sulfur that it takes to give metals their sulfurized form because it is common practice to presulfurize a catalyst in this amount.

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11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sadakane in view of Da Costa. Sadakane discloses everything in claim 1 (see paragraph 3), but does not disclose where the specific surface area of the substrate is less than  $200\text{m}^2/\text{g}$ .

However, Da Costa discloses a support having a specific surface area in the range of 150 to  $500\text{m}^2/\text{g}$  (see Da Costa, column 3, lines 26-33).

Da Costa discloses that the support preferably has a surface area between 150 to  $500\text{m}^2/\text{g}$  (see Da Costa, column 3, lines 26-33).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the process of Sadakane to include a support having a specific surface area in the range of 150 to  $500\text{m}^2/\text{g}$  because such a surface area is preferred.

12. Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Da Costa in view of Sadakane. Da Costa discloses everything in claim 6 (see paragraph 6), but does not disclose where the stage for deposition of carbon is carried out during the activation stage.

However, Sadakane discloses where the presulfurization is carried out during the depositing of coke (see Sadakane column 5, lines 33-36).

According to *In re Burhans*, 154 F.2d 690 (CCPA 1946), the selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the process of Sadakane to include where the presulfurization is carried out during the depositing of coke because the selection of any order of performing process steps is prima facie obvious.

13. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Da Costa. Da Costa discloses everything in claim 6 (see paragraph 6), but does not disclose where the stage for deposition of carbon is carried out at the same time as the impregnation of metals of Groups VI and/or VIII by depositing a precursor that contains carbon at the time of impregnation of the metals.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the process of Da Costa to include where the stage for deposition of carbon is carried out at the same time as the impregnation of metals of Groups VI and/or VIII by depositing a precursor that contains carbon at the time of impregnation of the metals since it has been held that the selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results (*In re Burhans*, 154 F.2d 690 (CCPA 1946)).

### ***Conclusion***


14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Sherif (US 5451389).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John C. Douglas whose telephone number is 571-272-1087. The examiner can normally be reached on 7:30 A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCD

  
Glenn Caldarola  
Supervisory Patent Examiner  
Technology Center 1700